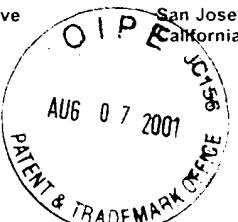


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2814
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Docket No.: M-7971 US

August 6, 2001

Commissioner For Patents
Washington, D.C. 20231

Re: Applicant(s): Zagorskin, Alexandre M.
Assignee: D-Wave Systems, Inc.
Title: Permanent Readout Superconducting Qubit
Serial No.: 09/452,749
Examiner: D. Wille
Docket No.: M-7971 US

Filed: December 1, 1999
Group Art Unit: 2814

Dear Sir:

Transmitted herewith are the following documents in the above-identified application:

- (1) Return Receipt Postcard;
- (2) This Transmittal Letter (in duplicate); and
- (3) Response to Office Action (14 pages).

The fee has been calculated as shown below:

CLAIMS AS AMENDED

	Claims Remaining <u>After Amendment</u>		Highest No. Previously Paid For		Present Extra	Rate	Additional Fee
Total Claims	42	Minus	27	=	15	x \$9.00	\$ 135.00

Independent Claims	4	Minus	3	=	1	x \$80.00	\$ 80.00
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Fee of _____ for the first filing of one or more multiple
dependent claims per application

Fee for Request for Extension of Time

Total additional fee for this Amendment: \$ 215.00

Conditional Petition for Extension of Time: If an extension of time is required for timely
filing of the enclosed document(s) after all papers filed with this transmittal have been
considered, an extension of time is hereby requested.

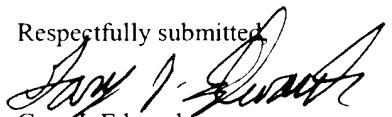
Please charge our Deposit Account No. 19-2386 in the amount of \$ 215.00

Also, charge any additional fees required and credit any overpayment to our Deposit
Account No. 19-2386.

Total: \$ 215.00

**VIA EXPRESS MAIL LABEL NO.
EL 701 022 103 US**

Respectfully submitted,


Gary J. Edwards
Attorney for Applicant(s)
Reg. No. 41,008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Zagoskin, Alexandre M.
Assignee: D-Wave Systems, Inc.
Title: Permanent Readout Superconducting Qubit
Serial No.: 09/452,749 Filing Date: December 1, 1999
Examiner: Wille, D. Group Art Unit: 2814
Docket No.: M-7971 US

San Jose, California
August 7, 2001

COMMISSIONER FOR PATENTS
Washington, D. C. 20231

AMENDMENT

Dear Sir:

This communication is responsive to the Office Action mailed on May 07, 2001, in the above identified application. Please amend the application as indicated. Clean copies of the amendments are listed below while mark-ups illustrating the amendments are presented in the attached Appendix of Amendments.

In the Specification

On Page 2, please replace the paragraph starting on line 8 and ending on line 19 with

Quantum computing generally involves initializing the states of N qubits (quantum bits), creating controlled entanglements among the N qubits, allowing the quantum states of the qubits to evolve under the influence of the entanglements, and reading the qubits after they have evolved. A qubit is conventionally a system having two degenerate quantum states, and the initial state of the qubit typically has non-zero probabilities of being found in either degenerate state. Thus, N qubits define an initial state that is a combination of 2^N degenerate states. The entanglements control the evolution of the distinguishable quantum states and define calculations that the evolution of the quantum states perform. This evolution, in effect, performs 2^N simultaneous calculations. Reading the qubits after evolution is complete determines the states of the qubits and the results of the calculations.

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